

Remarks

The Examiner's Office action mailed February 10, 2004, which rejected pending claims 1-6, 8-62, and 64-68 has been reviewed. In view of the amendments and the following remarks, Applicants respectfully submit that the application is in condition for allowance.

The Examiner rejected claims 1-6, 8-62 and 64-68 under 35 U.S.C. § 103 as being unpatentable by GB Publication No. 2347319, Appel et al. ("Appel") in view of U.S. Patent No. 6,163,294, issued to Talbot ("Talbot"), and U.S. Patent No. 5,982,322, issued to Bickley ("Bickley").

The following is a quote from 35 U.S.C. § 102(a):

A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent.

Appel was published August 30, 2000. The invention of the present application was made before August 30, 2000, as shown by the attached Declarations under 37 C.F.R. § 1.131. Therefore, Appel was not described in a printed publication in this or a foreign country before the invention thereof by the applicants for patent. Therefore, Appel is not prior art under 35 U.S.C. § 102(a) and cannot be used to reject the present application.

The following is a quote from 35 U.S.C. § 102(b):

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States.

Appel was published August 30, 2000. The present application was filed November 22, 2000. Therefore, Appel was not described in a printed publication more than one year prior to the date of the present application. Therefore, Appel is not prior art under 35 U.S.C. § 102(b) and cannot be used to reject the present application.

Since Appel is not prior art under 35 U.S.C. § 102(a) or § 102(b), and because Appel therefore cannot be used under a § 103 rejection, and because all rejections were made on Appel under § 103, all rejections are improper. Withdrawal of the rejection of all claims respectfully is requested.

Further, specifically regarding claim 64, Appel discloses a CDMA system. Applicants' claim 64 requires a multipoint multichannel distribution service (MMDS) based communication signal. Therefore, Appel does not anticipate this claim. For this same reason, neither Talbot nor Bickley anticipates this claim. Since none of Appel, Talbot, and Bickley teach the limitations of claim 64, claim 64 is allowable. Therefore, Applicants respectfully request withdrawal of the rejection of amended claim 64 for this additional reason.

Further, the Examiner has not made a *prima facia* case of obviousness. The Examiner has not supplied any teaching, motivation, or suggestion to combine all three references to result in Applicant's claims.

The Examiner stated that “[h]ere, since it is well known in the art that frequency synthesizer is a VCO for generating a variety of predetermined frequencies derived from a stable master oscillator which is in turn calibrated by accurate timing or frequency signals from a GPS receiver as disclosed by Bickley . . . , and since Appel discloses a GPS receiver . . . , it would have been obvious to one skilled [sic] in the art to provide the above teaching of Talbot to Appel to provide” Applicants' invention. Notwithstanding that Applicants do not agree with the Examiner's citation or assessment of Bickley, the Examiner has not provided any teaching, suggestion, or motivation to combine all three references. The Examiner more or less has stated since Bickley shows component A, Appel shows component B, and Talbot shows component C, it would have been obvious to one skilled in the art to combine all three references to produce Applicants' claimed invention. The Examiner has not complied with the MPEP and has not provided a proper rejection. There is no teaching, suggestion, or motivation to combine all three references (or any two of them). Therefore, the § 103 rejection is improper. Applicants request the withdrawal of the § 103 rejection.

Further, the Examiner states that it would have been obvious to one skilled in the art to combine Talbot and Appel to provide the frequency signal from the GPS receiver to the synthesizer for providing a stabilizing system as claimed, in order to generate an oscillator signal to down convert the receiving signal to a lower frequency signal while reducing long-term frequency drift in the oscillator signal of the synthesizer. Again, Applicants do not claim a synthesizer. Further, there was no indication in Appel that they were concerned with frequency drift while converting signals. Moreover, Talbot does not down convert communication signals

from one frequency to another. Therefore, there would be no need in Talbot to be concerned with frequency drift while converting communication signals from one frequency to another.

The Examiner has not provided a teaching, suggestion, or motivation to combine all three, or even two, of the cited references. The Examiner has failed to make a *prima facia* case of obviousness under § 103. For this additional reason, withdrawal of the rejection is requested.

Additionally, regarding the Examiner's proposed suggestions or motivations to combine as discussed above, the Examiner may not base a rejection on conclusory statements or meaningless reasons to combine references. Under an obviousness rejection, there must be a search and analysis of the prior art, including evidence relevant to the finding of whether there is a teaching, motivation, or suggestion to select and combine the references relied on as evidence of obviousness. *In re Lee* at 1433. The Examiner can satisfy the burden of showing obviousness of the combination "only by showing some objective teaching in the prior art" that would lead that individual to combine the relevant teachings of the references. *In re Lee* at 1434. Conclusory statements from the Examiner do not adequately address the issue of motivation to combine. This factual inquiry of motivation is material to patentability, and can not be resolved on subjective belief and unknown authority. *In re Lee* at 1434.

The Examiner has not provided an objective teaching or suggestion to combine the references above. The reasons provided by the Examiner are meaningless and would not lead an individual to create the claimed invention. The Examiner is precluded from rejecting a claim based on conclusory statements and a lack of objective evidence.

For the reasons discussed above, Appel, Bickley, and Talbot do not disclose, teach, or suggest the limitations of Applicants' claims 1, 7, 11, 14, 35, 41, 45, 57, 64, 67, and 68, alone or in combination. Therefore, Applicants submit that these claims are allowable. Withdrawal of the rejections of these claims respectfully is requested.

Further, the Examiner is using Applicants' statement of its novelty as the reason why three separate applications are being combined. This is impermissible hindsight.

Applicants teach in the present application that the block converter is subject to drift. Therefore, the present invention generates a stabilized local oscillator signal to be used to convert the frequency of a communication signal to a different stable frequency so that the different stable frequency remains at or approximately within a desired frequency.

Since the input to the stabilized local oscillator is stable and accurate, the output of the stabilized local oscillator remains stable and at a more accurate frequency. Thus, the output of the stabilized local oscillator does not drift from, and remains approximately within, the desired frequency. This is an advance over prior systems in which the frequency of the local oscillator drifted, thereby causing the output of the local oscillator to drift. This caused the output of the converter to drift from the desired frequency. See the present Application, page 4, line 15; page 6, line 12; page 8, lines 15-19; page 12, lines 14-19; page 16, line 19-page 17, line 2; page etc.

The Examiner is using impermissible hindsight. In making a rejection, the Examiner may not use the Applicants' own teachings against them to make a rejection. *In re Lee*, 61 USPQ2d 1430, 1434 (CAFC 2002).

Further regarding the § 103 rejection, it should be noted that Appel does not disclose, teach, or suggest a stabilizing system as required by Applicants' claims. As noted by the Examiner, Appel discloses a GPS receiver. Column 15, lines 4-26. However, Appel does not disclose, teach, or suggest that these GPS signals are used to generate a stable timing signal or that the stable timing signal is used to generate a stable oscillator signal. GPS signals can be used for reasons unrelated to systems and methods of Applicants' claims. The relevant limitations of Applicants claims, such as claim 1, require a converting system configured to convert the frequency of a communication signal using the stable timing signal. For this additional reason, withdrawal of the rejection of all claims respectfully is requested.

Further, the Examiner states that "it is clear that Appel as modified would disclose the stabilizing system comprising a stabilized local oscillator as claimed . . . and the converting system would also comprise a block converter as claimed." The Examiner makes this statement with absolutely no proof. The Examiner has not pointed to any reference that discloses, teaches, or suggests this statement. The Examiner has not even shown that a block converter is present in any of the references. Appel does not disclose, teach, or suggest that the stabilizing system would comprise the claimed stabilized local oscillator. Certainly, Appel does not disclose, teach, or suggest that a converting system would comprise the claimed block converter.

Of course, Appel could not have considered using Bickley or Talbot as stated by the Examiner since Appel was filed before Bickley and Talbot issued, and Bickley and Talbot were not published prior to issuance.

Regarding Bickley and the § 103 rejection, Bickley does not disclose, teach, or suggest the systems or methods required by Applicants' claims. Bickley does not disclose, teach, or suggest a stabilizing system configured to generate a stable timing signal and a converting system configured to convert the communication signal from a frequency to a stable lower frequency using the stable timing signal, as in Applicants' claim 1. Bickley does not disclose, teach, or suggest, for example, that a GPS signal is used to generate a stable timing based signal and that the stable timing based signal is used to convert a communication signal from a first frequency to a second stable frequency, and that the converted communication signal at the stable frequency is further transmitted, as claimed by Applicants.

Bickley discloses a hand-held radio that includes a transceiver. The transceiver desirably operates in burst mode and transmits during narrow time windows calculated using the local real time clock output slaved to time/frequency information derived from a geolocation means. Column 2, lines 47-50. The hand-held radio transmits and receives wireless communications only.

The hand-held radio is used for search and rescue operations for rescuing personnel. Column 3, lines 66-67 and column 4, lines 54-67. The hand-held radio transmits signals to a satellite, and the satellite communicates with a base station. Column 4, lines 1-4. The hand-held radio receives signals in a satellite communication link (SATCOM) mode using a satellite link or line of site (LOS) mode using a radio link. Column 4, lines 19-20 and column 5, lines 3-6.

The hand-held radio calculates its local position based on data received from the geolocation transceiver. Column 4, lines 33-39. The hand-held radio then transmits the local position information to the satellite, and the satellite transmits the local position information to the base station. Column 4, lines 46-53.

Bickley does not disclose a stabilizing system. The hand-held radio of Bickley includes a real time clock and a GPS receiver that are coupled to a data processor. The real time clock provides timing and frequency control signals to the data processor and the transceiver. The real time clock is slaved using the time/frequency information obtained from the geolocation receiver. The time/frequency information is optionally coupled from the geolocation receiver via the data processor or to the clock. Column 5, lines 22-42.

Signals that are received by the hand-held radio are filtered, amplified, and mixed with a frequency synthesized signal. Column 6, lines 63-67. The resulting signal is then amplified, demodulated, and sent to the data processor, the crypto unit, or an audio module. Column 7, lines 1-16. Decrypted audio ultimately is passed to a voice transducer. Column 7, lines 33-38. Alternately, output data from the crypto unit instructs the data processor to present data on a display. Column 7, lines 38-40.

Carrier frequency signals are generated from the frequency synthesizer to the mixer. As noted above, these signals are SATCOM signals and LOS signals. The frequency synthesizer also generates signals for modulation and demodulation. Column 8, lines 8-13. The output of the frequency synthesizer is controlled by data processor. Column 8, lines 13-15.

Further, the received and processed signals of Bickley are not transmitted. They are processed to generate information via a voice transducer or a display.

Moreover, since the signals received by the hand-held radio of Bickley are not further transmitted, such as from the upper portion of a communication tower to the bottom of the lower portion of the communication tower, there would be no need to consider such problems that led to Applicants' invention.

The system of Bickley does not down convert signals to transmit the signals over a fiber optic cable or coaxial cable to the lower portion of a cell tower. Bickley synthesizes frequencies in the frequency synthesizer, it does not convert frequencies in the synthesizer using a stable timing signal.

Therefore, Bickley does not teach, disclose, or suggest the limitations of Applicants' claims. Moreover, there is no motivation, teaching or suggestion to combine Bickley with either of the systems of Appel or Talbot. Additionally, it is not evident that the Bickley system would work with Applicants' system or the systems of Talbot or Appel as stated by the Examiner. Neither Bickley alone nor in combination with Appel and/or Talbot teaches the systems and methods of Applicants' claims. For these additional reasons, withdrawal of the rejection of the claims respectfully is requested.

Regarding Talbot and the § 103 rejection, Talbot relates to surveying instruments and calibrating electronic distance measurement instruments. See Talbot, column 1, lines 9-14. Talbot is not within the same art as Applicants' claims.

Talbot is directed to a satellite positioning system and electro-optical total station system with a phase measurement device. Column 3, line 66-column 4, line 1. An electronic distance meter (EDM) has an EDM transmitter for launching an outbound signal to a distant target and an EDM receiver for receiving a reflected signal from the distant target. Column 4, lines 19-23. The device measures the difference in the number of cycles of a reference frequency between the out-bound signal and the reflected signal. Column 4, lines 24-29. Post processing is then used to relate the corresponding measurements and time standards such that a distance to target measurement can ultimately be computed. Column 4, lines 35-38. A GPS master reference oscillator is used to correct signals from a navigation computer that maintain satellite tracking. Column 4, lines 51-54.

Talbot does not disclose, teach, or suggest the systems or methods required by Applicants' claims. Further, Talbot does not disclose, teach, or suggest a stabilizing system configured to generate a stable timing signal and a converting system configured to convert a communication signal from a frequency to a stable lower frequency using the stable timing signal, as in Applicants' claim 1. Talbot does not disclose, teach, or suggest, for example, that a GPS based signal is used to generate a stable timing signal and that the stable timing signal is used to convert a communication signal from a first frequency to a second stable frequency, and that the converted communication signal is further transmitted, as in Applicants' claims.

Moreover, there is no motivation, teaching, or suggestion to combine Talbot with either of the systems of Appel or Bickley. Neither Talbot alone nor in combination with Appel and/or Bickley teaches the systems and methods of Applicants claims. For these additional reasons, withdrawal of the rejection of all claims respectfully is requested.

With regard to the claims depending from claims 1, 8, 11, 14, 35, 41, 45, 57, and 64, they contain all of the limitations of their respective base claims. Therefore, they also are believed to be allowable. Withdrawal of the rejection of the depending claims respectfully is requested.

Specifically regarding original dependent claims 27-28 and 53-54, the Examiner finds that it would have been obvious to further modify Appel, Talbot, and Bickley to generate stable timing signals at the upper portion of the tower by placing the GPS receiver at the upper portion of the tower to reduce the blockage of GPS satellite signals caused by tall buildings.

Again, the Examiner has attempted to provide a “motivation” to combine that is meaningless and not based on objective evidence.

The GPS receivers in prior art towers are located at the bottom of the towers. The GPS receivers receive the signals accurately. Therefore, to state that one skilled in the art would have relocated the GPS receiver to the top of the tower to receive better signals is meaningless. Even so, the limitations of those claims are not met.

Conversely, one embodiment of the systems and methods of Applicants’ claims locates a GPS receiver or other stable timing source at the upper portion of a communication tower so that GPS signals or other stable timing signals are not required to be transmitted from the bottom of the tower to the upper portion of the tower. Because these signals are not required to be transmitted up the tower, they are less likely to have phase distortion, propagation delay, signal loss over the transmission medium, or be distorted from interference from other RF sources, such as lightning or other RF sources. Locating a GPS receiver or other stable timing source at the upper portion of the communication tower is a significant advance in the art. The Examiner cannot use impermissible hindsight to provide a “motivation to combine” or provide reasons for obviousness that are meaningless and not objective.

The Examiner may not base a rejection on such conclusory statements. Under an obviousness rejection, there must be a search and analysis of the prior art, including evidence relevant to the finding of whether there is a teaching, motivation, or suggestion to select and combine the references relied on as evidence of obviousness. *In re Lee* at 1433. The Examiner can satisfy the burden of showing obviousness of the combination “only by showing some objective teaching in the prior art” that would lead that individual to combine the relevant teachings of the references. *In re Lee* at 1434. Conclusory statements from the Examiner do not adequately address the issue of motivation to combine. This factual inquiry of motivation is material to patentability, and can not be resolved on subjective belief and unknown authority. *In re Lee* at 1434.

The Examiner has not provided an objective teaching or suggestion to combine the references or to modify the teachings of the references that would lead an individual to create the claimed invention. The Examiner is precluded from rejecting a claim based on conclusory statements. For these additional reasons, withdrawal of the rejection of claims 26-28 and 52-54 respectfully is requested.

The foregoing argument applies equally to Previously Amended claims 11 and 68. For this additional reason, withdrawal of the rejection of claims 11 and 68 respectfully is requested.

Additionally, specifically regarding dependent claims 39, 43, 51, 61, and 65, using a stable timing signal comprising a global positioning system based timing signal is not disclosed, taught, or suggested by Appel, Talbot, or Bickley, alone or in combination. For this additional reason, withdrawal of the rejection of claims 39, 43, 51, 61, and 65 respectfully is requested.

Additionally, specifically regarding dependent claims 30 and 56, receiving a communication signal comprising a multipoint multichannel distribution service based communication signal is not disclosed, taught, or suggested by Appel, Talbot, or Bickley, alone or in combination. For this additional reason, withdrawal of the rejection of claims 30 and 55 respectfully is requested.

The foregoing argument applies equally to Previously Amended claims 11, 41, and 64. For this additional reason, withdrawal of the rejection of claims 11, 41, and 64 respectfully is requested.

If the Examiner continues to believe that any portion or portions of the claims can be rejected over Appel, Talbot, or Bickley, alone or in combination, or the Examiner otherwise disagrees with the Remarks above, Applicants specifically request that the Examiner respond to all arguments made in the Remarks section of this Response above, specifically including a detailed explanation of objective reasons for combining the references. Such a detailed explanation is needed by Applicants so that Applicants can adequately respond to a continued rejection. Applicants thank the Examiner in advance for cooperation in this respect.

The references cited by the Examiner and made of record have been reviewed by Applicants. Applicants have no further remarks with regard to the cited references.

Based on the foregoing, it is submitted that the Applicants' invention as defined by the claims is patentable over the references of record. Issuance of a Notice of Allowance is solicited.

Applicants' attorney welcomes the opportunity to discuss the case with the Examiner in the event that there are any questions or comments regarding the response or the application.

This is intended to be a complete response to the Examiner's Office action mailed on February 10, 2004.

Respectfully Submitted,

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